Indicators

Objective:

4.04 Identify outliers and determine their effect on the mean, median, mode, and range of a set of data.

Vocabulary and Resources		
box-and-whisker plot	upper quartile	inter-quartile range
quartile	third quartile	histogram
lower quartile	minimum value	stem-and-leaf-plot
first quartile	maximum value	measures of central tendency
middle quartile/median	outlier	frequency table
second quartile	range	interval

A. Farmer Brown raises pumpkins and recorded the following weights (in pounds) for the pumpkins he harvested:

29, 15, 40, 32, 15, 250, 33, 15, 39, 25, 16, 19, 30, 28, 28, 30, 32, 33, 31, 25, 29, 30, 10, 24

Calculate the mean, median, mode, and range for the above weights. Should Farmer Brown use the mean, median, mode, or range to most accurately describe his crop. Explain. Identify the outlier for this set of data. If it is excluded, how would the mean, median, mode and range change?

B. At a silent auction, the following bids were received on an item: $42, $22, $50, $12, $16, $105, and $37. Determine the mean, median, mode, range, and interquartile range for this set of data. Use a box plot to display the set of data. If an outlier exists, identify the outlier and explain its effect, if any, on the mean, median, mode, range, and interquartile range.